

# EUROPEAN PATENT OFFICE

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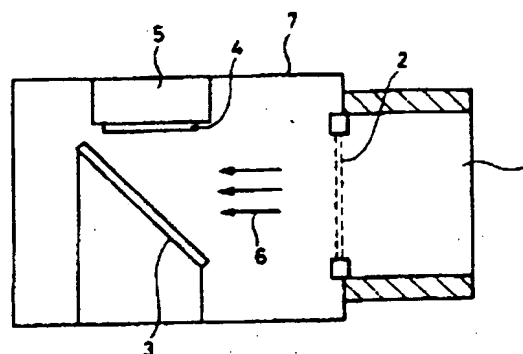
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TITLE : FABRICATION OF AMORPHOUS SOFT  
MAGNETIC FILM



ABSTRACT : PURPOSE: To make magnetostriction almost zero by increasing a saturated magnetic flux density and a permeability by fabricating a Cp-Zr-Re triple alloy amorphous soft magnetic film in which the Re content is limited by an ion beam sputtering method.

CONSTITUTION: The titled film is fabricated by ion beam sputtering method using Co-Zr-Re triple alloy including Re of 4atm% or less. Ar ion beams 6 generated by the ion gun 1 of an ion beam sputtering device are accelerated by a grid 2 and are projected to a target 3 which is arranged in a vacuum tank 7 at the predetermined angle. The target particles sputtered there are deposited on the substrate 4 which is supported by a substrate holder 5, resulting in the vapor deposition by sputtering. Then it becomes possible to obtain the film of good characteristics which has higher specific resistance, saturated magnetic flux density and permeability compared with a Co-Zr-Re amorphous alloy film formed by RF sputtering, and further in which a magnetostriction is almost zero.

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